

I claim:

1. An improved tong die, especially suitable for a backup unit in a combined power tong/backup assembly, comprising:

a tong die comprising a base portion and a gripping surface portion, said base portion adapted to be received into a backup jaw and fixed in place therein, and wherein said gripping surface portion, in profile view, is non-symmetric about a centerline through and normal to said base portion.

2. The tong die of Claim 1, wherein:

said backup jaw moves around a point of rotation;

said gripping surface portion, in profile view, comprises a segment of the arc of a circle, and

a center of said circle is displaced from a centerline through and normal to said base portion, in a direction away from said point of rotation of said backup jaw.

3. The tong die of Claim 1, wherein said non-symmetric shape comprises a parabola.

4. The tong die of Claim 1, wherein said non-symmetric shape comprises a substantially straight line, angled with respect to said centerline.

5. A tong assembly comprising:

a) a power tong;

b) a backup assembly coupled to said power tong;

wherein said backup assembly comprises a pair of rotatable jaws, each of said jaws having a tong die mounted therein, said tong die comprising a base portion and a gripping surface portion, said base portion adapted to be received into said jaw and fixed in place

therein, and wherein said gripping surface portion, in profile view, is non-symmetric about a centerline through and normal to said base portion.

6. The tong assembly of Claim 5, wherein:

each of said jaws moves around a point of rotation;

5        said gripping surface portion, in profile view, comprises a segment of the arc of a circle, and

a center of said circle is displaced from a centerline through and normal to said base portion, in a direction away from said point of rotation of said backup jaw.